UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,793	05/30/2001	Stephen Joseph Vesper	VESPER1	5682

1444 7590 12/19/2003

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER	
DUFFY, PATRICIA ANN	
ART UNIT	**PAPER NUMBER**
1645	

DATE MAILED: 12/19/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/866,793	Applicant(s) VESPER, STEPHEN JOSEPH	
	Examin r Patricia A. Duffy	Art Unit 1645 .	

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5 and 19-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5 and 19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Response to Amendment

The response and amendment filed 8-29-03 has been entered into the record. The amendment to [0039] contains typographical errors not in the original specification and correction is required. Claims 3-5 and 19-22 are pending and under examination.

Rejections Maintained

Claim Rejections - 35 U.S.C. § 112

Claims 3-5 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is maintained for reasons made of record.

The claims remain indefinite in the recitation of "antibodies to fungal hemolysin". It is unclear what is meant by "to" is this specific binding of the antibody to the fungal hemolysin. This issue is not obviated by the amendment or Applicant's response. Applicants argue that it is clear that the antibodies bind in view of the specification. This is not persuasive limitations and language of the specification are not read into the claims. As to the issue that, it is unclear what is meant by "active fragments thereof" because it is unclear what "activity" is demonstrated by the fragment. Applicants reiteration of fungi producing hemolysins does not resolve this issue. This is also not persuasive, antibodies also have "active fragments" and as such it is still unclear which element this phrase modified. The claims do not recite "active fragments of hemolysin" as argued by Applicants. As to applicants remarks regarding measurement of hemolysing or antibodies to the hemolysin in a sample is not persuasive because it is merely a reiteration of the "intent" of the invention and does not resolve specific 112 second paragraph issues of record. The issue of "presence of antigens to fungal hemolysin" has been resolved by

Applicants amendment to claim 3. With respect to the issue of the steps of necessary to perform the goal of the preamble the mere detection of the label as recited in the claims can not distinguish between bound an unbound antigen it merely provides the indication of the presence of the labeled antibody and as such it is completely unclear how this assay functions when labeled antibody is combined with a sample from said mammal and the label is detected. The assay does not distinguish between labeled antibodies "to fungal hemolysin" that is presumably specifically bound to an "antigen to fungal hemolysin" and label that is presumably not bound to an "antigen to fungal hemolysin". Applicants argue all sorts of limitations that are not in the claims and require additional method steps to function. The claims define the invention and they must function to perform the goal of the preamble. The claim as currently written does not function to detect hemolysin. The combination of label as opposed to the hemolysing/antibody complex does not allow for the determination of the presence or absence of hemolysin in the sample because the claim does not distinguish between labeled antibody not bound to hemolysin and labeled antibody bound to hemolysin. The rejection is maintained.

As to claims 19-21, the claims remain indefinite in the recitation of "antibodies to fungal hemolysin" for reasons made of record in the preceding paragraph. It is unclear what is meant by "to", is this specific binding of the antibody to the fungal hemolysin ? It is unclear what is meant by "active fragments thereof" because it is unclear what "activity" is demonstrated by the fragment. This rejection is maintained for reasons made of record in the preceding paragraph. Further, detection of the label can not distinguish between bound an unbound antigen it merely provides the indication of the presence of the labeled antibody and as such it is completely unclear how this assay functions when labeled antibody is combined with a sample from said mammal and the label is detected. With respect to the issue of the steps of necessary to perform the goal of the preamble the mere detection of the label as recited in the claims can not distinguish b tween bound an unbound antigen it merely provides the indication of the presence of the label d antibody

and as such it is completely unclear how this assay functions when labeled antibody is combined with a sample from said mammal and the label is detected. The assay does not distinguish between labeled antibodies "to fungal hemolysin" that is presumably specifically bound to an "antigen to fungal hemolysin" and label that is presumably not bound to an "antigen to fungal hemolysin". Applicants argue all sorts of limitations that are not in the claims and require additional method steps to function. The claims define the invention and they must function to perform the goal of the preamble. The claim as currently written does not function to detect hemolysin. The combination of label as opposed to the hemolysing/antibody complex does not allow for the determination of the presence or absence of hemolysin in the sample because the claim does not distinguish between labeled antibody not bound to hemolysin and labeled antibody bound to hemolysin. It is noted that as written this claim is specifically directed to the detection of fungal hemolysin in an animal sample and NOT to an embodiment of antibodies to the fungal hemolysin in a sample as argued by Applicants. The embodiment of detecting antibodies to the hemolysin in an animal sample is not provided by any of the claims. Applicants are under the misapprehension that this is a claimed embodiment.

The rejection is maintained.

Claim 2-3, 19-21 and new claim 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al (Japanese Journal of Medical Mycology, 25(3):Abstract, 1984) in view of Harlow et al (Antibodies A Laboratory Manual, Cold Spring Harbor Press, 1989, pages 390-393) is maintained for reasons made of record in Paper 13, mailed 6-19-03.

Applicants argue that Sakaguchi et al merely describes that asp-hemolysin was measured in animal tissues after the spores were injected into the mice. Applicants argue that although these individuals have be n publishing papers for years their interest has been elsewhere. This is not persuasive, it is irrelevant to the facts and rejection of

r cord. The assay of the art performs the claimed function of determining if an animal has been exposed to a fungal hemolysin by detection of the hemolysin with the exception of how the immunoassay format used. Applicants merely reiterate well established case law regarding non-obviousness. This is not persuasive, because the examiner has provided motivation and modification of immunoassay formats is routine in the art and the claimed format (i.e. direct labeling of the antigen binding antibody) was well established in the art at the time of filing. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as demonstrated by the secondary reference direct labeling of the antigen-binding antibody was a known and obvious variation of any standard assay and as specifically recited by the examiner "Harlow et al teaches that labeled primary antibody provides for the advantage of cleaner signals with lower background and that both the direct and indirect methods are in common usage.." a fact was so well known that is was published in the Laboratory Manual of conventional procedures cited in the combination and the reference provides specific motivation and was specifically cited by the examiner.

Applicants arguments are not persuasive.

New Rejections Based on Amendment

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as th invention.

As to claim 22, the recitation of the phrase human/animal is indefinite because it is unclear if this is directed to an alternative recitation of animal (a genus) or human or human alone.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 22 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sakaguchi et al (Japanese Journal of Medical Mycology, 25(3):Abstract, 1984).

The claims are drawn to a method for determining if a human/animal has been exposed to a hemolysin-producing fungus comprising detecting the presence of hemolysing in a sample from the human/animal by detecting the presence of hemolysing in a sample from the human/animal.

Sakaguchi et al teach the immunohistochemical detection of the secretion of Asp-hemolysin in tissues (i.e. the instant sample) from a mouse infected with *Aspergillus fumigatus* (i.e. the instant animal). The immunohistochemical method uses and indirect enzyme labeled peroxidase binding IgG antibody (see English Abstract). The method differs by labeling the second or indirect antibody, rather than the primary or binding antibody.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable ov r Sakaguchi et al (Japanese Journal of Medical Mycology, 25(3):Abstract, 1984) in view of Davis et al (in Microbiology, Third Edition, Harper and Row Publishers Inc., 1980 pages843-844).

Sakaguchi et al is set forth *supra*. Sakaguchi et al differ by not detecting *Aspergillus fumigatus* hemolysin in a human.

Davis et al teach that seven species of Aspergillus have been associated with human disease and Aspergillus fumigatus account for over 90% of infections.

It would have been *prima facie* obvious to one having ordinary skill in the art at the time that the invention was made to modify the assay of Sakaguchi et al by substituting a human sample for the murine sample in the method of detection of *Aspergillus fumigatus* hemolysin in infection Davis et al teach that *Aspergillus fumigatus* is an important human pathogen and Sakaguchi et al teach that the hemolysin is produced during infection and would be reasonably expected to be produced during human infection.

Status of Claims

No claims are allowed. All stand rejected.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any xtension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry of a general nature or relating to the status of this general application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Papers relating to this application may be submitted to Technology Center 1600, Group 1640 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Should applicant wish to FAX a response, the current FAX number for Group 1600 is (703) 308-4242.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia A. Duffy, Ph.D. whose telephone number is (703) 305-7555. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached at (703) 308-3909.

Patricia A. Duffy, Ph.D.
12/17/03

Patricia A. Duffy

Patricia A. Duffy, Ph.D.
Primary Examiner
Group 1600